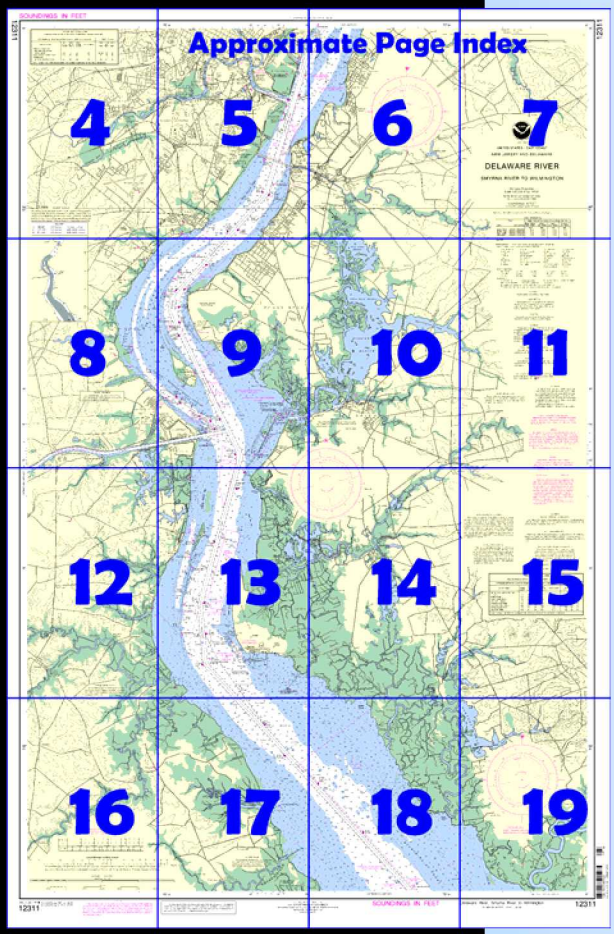
BookletChart™

Delaware Bay – Smyrna River to Wilmington

(NOAA Chart 12311)



A reduced scale NOAA nautical chart for small boaters. When possible, use the full size NOAA chart for navigation.

- ☑ *Complete, reduced scale nautical chart*
- ☑ *Print at home for free*
- ☑ *Convenient size*
- ☑ *Up to date with all Notices to Mariners*
- ☑ *United States Coast Pilot excerpts*
- ☑ *Compiled by NOAA, the nation's chartmaker.*

NOAA
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
U.S. DEPARTMENT OF COMMERCE

Home Edition (not for sale)

Published by the
National Oceanic and Atmospheric Administration
National Ocean Service
Office of Coast Survey
www.NauticalCharts.NOAA.gov
301-713-2770

What are Nautical Charts?

Nautical charts are a fundamental tool of marine navigation. They show water depths, obstructions, buoys, other aids to navigation, and much more. The information is shown in a way that promotes safe and efficient navigation. Chart carriage is mandatory on the commercial ships that carry America's commerce. They are also used on every Navy and Coast Guard ship, fishing and passenger vessels, and are widely carried by recreational boaters.

What is a BookletChart™?

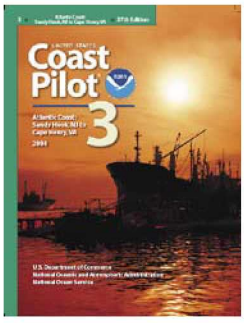
This BookletChart is made to help recreational boaters locate themselves on the water. It has been reduced in scale for convenience, but otherwise contains all the information of the full-scale nautical chart. The bar scales have also been reduced, and are accurate when used to measure distances in this BookletChart. See the Note at the bottom of page 5 for the reduction in scale applied to this chart.

Whenever possible, use the official, full scale NOAA nautical chart for navigation. Nautical chart sales agents are listed on the Internet at http://www.NauticalCharts.NOAA.gov.

This BookletChart does NOT fulfill chart carriage requirements for regulated commercial vessels under Titles 33 and 44 of the Code of Federal Regulations.

Notice to Mariners Correction Status

This BookletChart has been updated for chart corrections published in the U.S. Coast Guard Local Notice to Mariners, the National Geospatial Intelligence Agency Weekly Notice to Mariners, and, where applicable, the Canadian Coast Guard Notice to Mariners. Additional chart corrections have been made by NOAA in advance of their publication in a Notice to Mariners. The last Notices to Mariners applied to this chart are listed in the Note at the bottom of page 7. Coast Pilot excerpts are not being corrected.



[Coast Pilot, Chapter 6 excerpts]

(204) **Artificial Island.** The domes of the Salem Nuclear Power Plant, at the south end of the island, are prominent. An unmarked channel leads to a basin south of the powerplant; 18 feet was reported in the channel and basin.

(206) **Alloway Creek** has a depth of 3 feet to Quinton. The approach is unmarked. The shoals on either side of the mouth must be avoided. Above the mouth, the best water is not always in midstream, and local knowledge is needed. The current velocity is 2.1 knots 0.2 mile above the entrance and 1.4 knots at New Bridge.

(207) The Mill Street bridge at **Hancocks Bridge** has a clearance of 4 feet. Salem County Bridge at **New Bridge** has a clearance of 3 feet. The State Route 49 bridge at **Quinton** has a clearance of 3 feet. The bridge is in the closed position.

(208) **Salem River** is entered through **Salem Cove** across from the Chesapeake and Delaware Canal. The approach channel is marked by a lighted buoy, lights, and a lighted **027.3°** range; the depth was 13.4 feet (15.4 feet at midchannel) to Light 14; 12.2 feet through the landcut with 14 to 16 feet in the basin;, 16.0 feet to near the bridge at Salem. Above the bridge the depths were 2 feet or less.

(209) The maximum expected current in the land cut is 3 knots.

(210) State Route 49 bridge 1.8 miles above the mouth has a clearance of 5 feet.

(211) Several marinas and boatyards are along the north bend of Salem River and at Salem; slips, gasoline, and marine supplies are available.

(212) **Appoquinimink River** is used by pleasure craft. Controlling depth to Odessa is 2 feet. The current velocity in the entrance is 1.1 knots. The bridge 3 miles above the mouth has a clearance of 6 feet. The bridge at **Odessa** has a clearance of 4 feet.

(213) **Reedy Island**. The pier on the channel side of the island has a depth of 10 feet; the current velocity is about 2.5 knots off the pier. A submerged dike extends 3 miles southward from Reedy Island and parallels the western shore; the dike is marked by lights, and unlighted seasonal warning buoys.

(214) **Port Penn**. The approach, through the Reedy Island dike south of the island, is 5 feet deep and 150 feet wide, and marked on each side by a daybeacon. Approaches to the village from north of Reedy Island or from south of the dike are over flats with depths of 2 feet. Anchorage depths off Port Penn are 15 feet or more.

(216) **Pea Patch Island** is the site of **Fort Delaware State Park.** The wharf on the main channel is marked by a light. The area around the wharf is fouled with rocks which extend 220 yards southwest along the shoreline. A dike, mostly submerged at high water, extends northward along **Bulkhead Shoal** for 3 miles from Pea Patch Island; the dike is marked by lights and daymarkers. A fog signal and racon are located on an overhead power cable tower 0.8 mile N of Pea Patch Island. The current velocity is 2.3 knots in the main channel east of the island.

(217) **Delaware City Branch Channel**. A light marks the entrance to Delaware City Branch Channel; the controlling depth was 5 feet in the channel entrance from the Delaware River shoaling rapidly along the sides; thence the controlling depth was 6 feet in the channel. Depths alongside the Delaware City bulkhead were 7½ feet to bare. The entrance channel at the Chesapeake and Delaware Canal end was reported to have a depth of 7 feet. Mariners are cautioned to stay inside the north and south entrance channels.

(218) A highway bridge with a clearance of 6 feet crosses the channel 0.6 mile above the entrance; the bridge is maintained in the closed position.

(219) Berths, gasoline, diesel fuel, ice, and marine supplies are available on the west side of Delaware City Branch Channel southwest of the northeast entrance.

(220) A dredged cut with a depth at midchannel of 34 feet is marked by a **306°** lighted range and buoys, extends northwestward through **Bulkhead Shoal Channel** from Delaware River main channel to the Enterprises Refinery terminal.

(221) The current is 2.1 knots between Pea Patch Island and Delaware City.

(222) **Light 5N** (39°35.4'N., 75°33.9'W.). The power cable support tower, on the west side of the channel, has a fog signal and a racon.

(224) **Pennsville** has a small marina.

(225) A submerged jetty marked by seasonal buoys is in **Travis Cove**.

(232) Above Lobdell Canal, the centerline depths in Christina River were 11 feet to the Market Street bascule bridge, thence 5½ feet to the bascule bridge at Newport. Above this point local knowledge is necessary.

(237) **Brandywine Creek** has depths of 4 feet to the railroad bridge. The channel is rocky above the bridge, but depths of 1 to 2 feet can be carried to Market Street bridge above which there are rapids.

(239) The railroad bridge 1 mile above the mouth of Brandywine Creek and the highway bridges above it have a clearance of 10 feet.

Table of Selected Chart Notes

NOTE B
Depths refer to Christina River Datu

OYSTER GROUNDS
Caution: Numerous stakes and obstructions exist within these areas.

Corrected through NM Dec. 27/08
Corrected through LNM Dec. 23/08

HEIGHTS
Heights in feet above Mean High Water.

Mercator Projection
Scale 1:40,000 at Lat. 39°33'

North American Datum of 1983
(World Geodetic System 1984)

SOUNDINGS IN FEET
AT MEAN LOWER LOW WATER

CAUTION
Improved channels shown by broken lines are subject to shoaling, particularly at the edges.

AUTHORITIES
Hydrography and topography by the National Ocean Service, Coast Survey, with additional data from the Corps of Engineers, Geological Survey, and U.S. Coast Guard.

CAUTION
Temporary changes or defects in aids to navigation are not indicated on this chart. See Local Notice to Mariners.
During some winter months or when endangered by ice, certain aids to navigation are replaced by other types or removed. For details see U.S. Coast Guard Light List.

HORIZONTAL DATUM
The horizontal reference datum of this chart is North American Datum of 1983 (NAD 83), which for charting purposes is considered equivalent to the World Geodetic System 1984 (WGS 84). Geographic positions referred to the North American Datum of 1927 must be corrected an average of 0.403" northward and 1.269" eastward to agree with this chart.

APPOQUINIMINK RIVER
The controlling depth at mean lower low water from the entrance to Odessa was 4 feet June 1945-Oct. 1987. Local knowledge is recommended for navigation of this river.

SUPPLEMENTAL INFORMATION
Consult U.S. Coast Pilot 3 for important supplemental information.

AIDS TO NAVIGATION
Consult U.S. Coast Guard Light List for supplemental information concerning aids to navigation.

SMYRNA RIVER
The controlling centerline depth at mean lower low water from the entrance bar to Flemings Landing was reported to be 8 feet in May 1971; thence 3 feet to Smyrna Landing in June 1964.

NOAA WEATHER RADIO BROADCASTS
The NOAA Weather Radio stations listed below provide continuous weather broadcasts. The reception range is typically 20 to 40 nautical miles from the antenna site, but can be as much as 100 nautical miles for stations at high elevations.

Philadelphia, PA	KIH-28	162.475 MHz
Lewes, DE	WXJ-94	162.55 MHz
Sudlersville, MD	WXK-97	162.50 MHz

CAUTION
Mariners are warned to stay clear of the protective riprap surrounding navigational light structures shown thus:

RADAR REFLECTORS
Radar reflectors have been placed on many floating aids to navigation. Individual radar reflector identification on these aids has been omitted from this chart.

SALEM RIVER
The controlling depth at mean lower low water was 12 feet for a width of 150 feet in the channel across Salem Cove.
Feb 2009

PRIVATE CHANNELS
Bulkhead Shoal Channel and the turning basin are projects of the Star Enterprise Co. Aids to navigation are private.

LOCAL MAGNETIC DISTURBANCE
Differences of as much as 2° to 5° from the normal variation have been observed along the channel from Artificial Island, New Jersey to Marcus Hook, Pennsylvania.

NOTE A
Navigation regulations are published in Chapter 2, U.S. Coast Pilot 3. Additions or revisions to Chapter 2 are published in the Notice to Mariners. Information concerning the regulations may be obtained at the Office of the Commander, 5th Coast Guard District in Portsmouth, Virginia or at the Office of the District Engineer, Corps of Engineers in Philadelphia, Pennsylvania.
Refer to charted regulation section numbers.

PRINT-ON-DEMAND CHARTS
NOAA and its partner, OceanGrafix, offer this chart updated weekly by NOAA for Notices to Mariners and critical corrections. Charts are printed when ordered using Print-on-Demand technology. New Editions are available 5-8 weeks before their release as traditional NOAA charts. Ask your chart agent about Print-on-Demand charts or contact NOAA at 1-800-584-4683, http://NauticalCharts.gov, help@NauticalCharts.gov, or OceanGrafix at 1-877-56CHART, http://OceanGrafix.com, or help@OceanGrafix.com.

WARNING
The prudent mariner will not rely solely on any single aid to navigation, particularly on floating aids. See U.S. Coast Guard Light List and U.S. Coast Pilot for details.

Additional information can be obtained at nauticalcharts.noaa.gov.

Christiana

SOURCE DIAGRAM
The outlined areas represent the limits of the most recent hydrographic survey information that has been evaluated for charting. Surveys have been banded in this diagram by date and type of survey. Channels maintained by the U.S. Army Corps of Engineers are periodically resurveyed and are not shown on this diagram. Refer to Chapter 1, United States Coast Pilot.

CAUTION
BASCULE BRIDGE CLEARANCES
For bascule bridges, whose spans do not open to a full upright or vertical position, unlimited vertical clearance is not available for the entire charted horizontal clearance.

POLLUTION REPORTS
Report all spills of oil and hazardous substances to the National Response Center via 1-800-424-8802 (toll free), or to the nearest U.S. Coast Guard facility if telephone communication is impossible (33 CFR 153).

CAUTION
This chart has been corrected from the Notice to Mariners (NM) published weekly by the National Geospatial-Intelligence Agency and the Local Notice to Mariners (LNM) issued periodically by each U.S. Coast Guard district to the dates shown in the lower left hand corner. Chart updates corrected from Notice to Mariners published after the dates shown in the lower left hand corner are available at nauticalcharts.noaa.gov.

This nautical chart has been designed to promote safe navigation. The National Ocean Service encourages users to submit corrections, additions, or comments for improving this chart to the Chief, Marine Chart Division (N/CS2), National Ocean Service, NOAA, Silver Spring, Maryland 20910-3282.

ABBREVIATIONS (For complete list of Symbols and Abbreviations, see Chart No. 1.)

Aids to Navigation (lights are white unless otherwise indicated):

AERO aeronautical	G green	Mo morse code	R TR radio tower
Al alternating	IQ interrupted quick	N nun	Rot rotating
B black	Iso isophase	OBSC obscured	s seconds
Bn beacon	LT HO lighthouse	Oc occulting	SEC sector
C can	M nautical mile	Or orange	St M statute miles
DIA diaphone	m minutes	Q quick	VQ very quick
F fixed	MICRO TR microwave tower	R red	W white
Fl flashing	Mkr marker	Ra Ref radar reflector	WHIS whistle
		R Bn radiobeacon	Y yellow

Bottom characteristics:

Blds boulders	Co coral	gy gray	Oys oysters	so soft
bk broken	G gravel	h hard	Rk rock	Sh shells
Cy clay	Grs grass	M mud	S sand	sy sticky

Miscellaneous:

AUTH authorized	Obstn obstruction	PD position doubtful	Subm submerged
ED existence doubtful	PA position approximate	Rep reported	

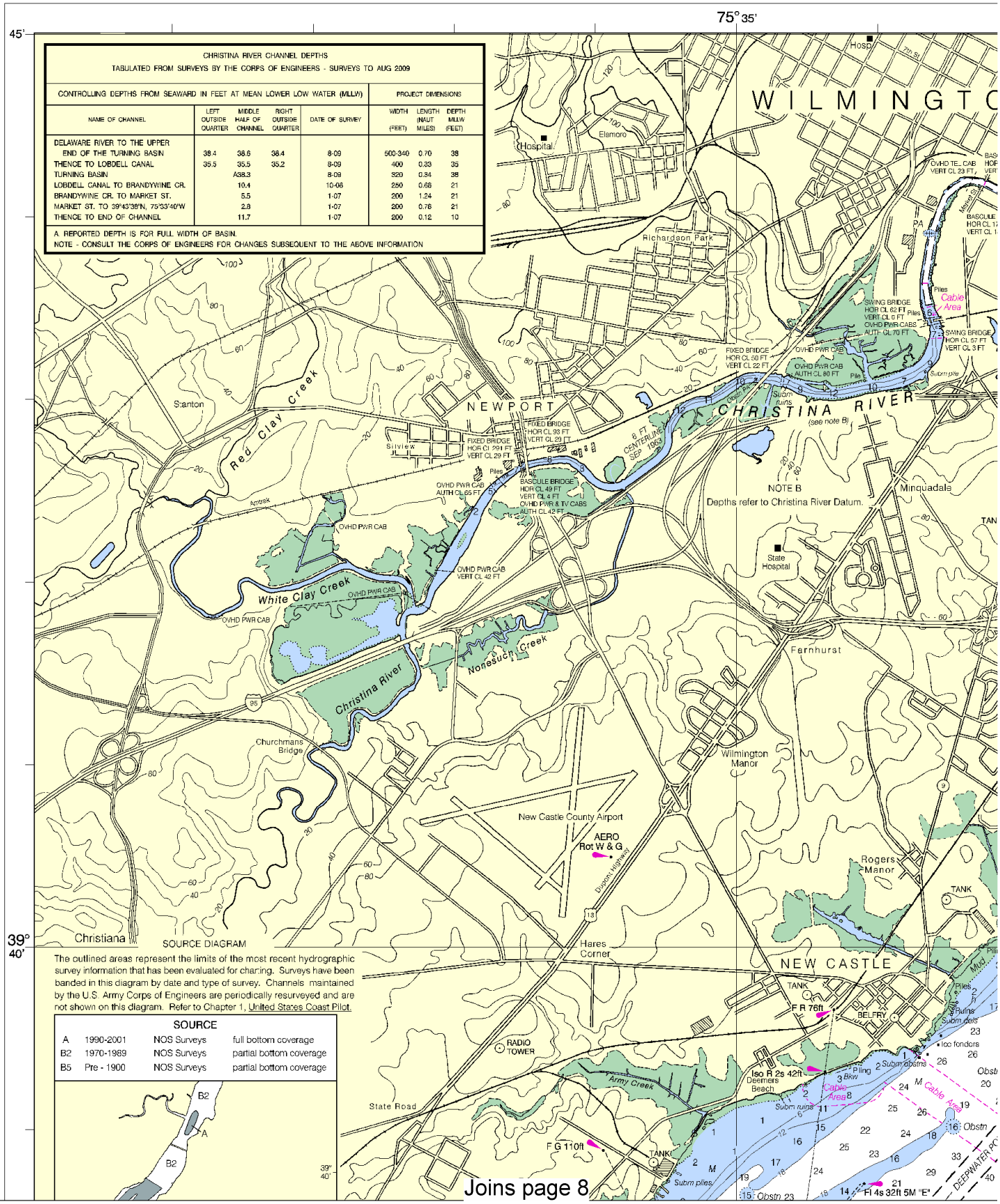
(21) Wreck, rock, obstruction, or shoal swept clear to the depth indicated.
(2) Rocks that cover and uncover, with heights in feet above datum of soundings.

TIDAL INFORMATION

PLACE		Height referred to datum of soundings (MLLW)		
NAME	(LAT/LONG)	Mean Higher High Water	Mean High Water	Mean Low Water
		feet	feet	feet
Reedy Point	(39°34'N/75°34'W)	5.8	5.5	0.2
New Castle	(39°39'N/75°34'W)	5.8	5.4	0.2
Wilmington	(39°43'N/75°31'W)	5.9	5.5	0.2

Dashes (- - -) located in datum columns indicate unavailable datum values for a tide station. Real-time water levels, tide predictions, and tidal current predictions are available on the Internet from http://tidesandcurrents.noaa.gov.
(Nov 2008)

SOUNDINGS IN FEET

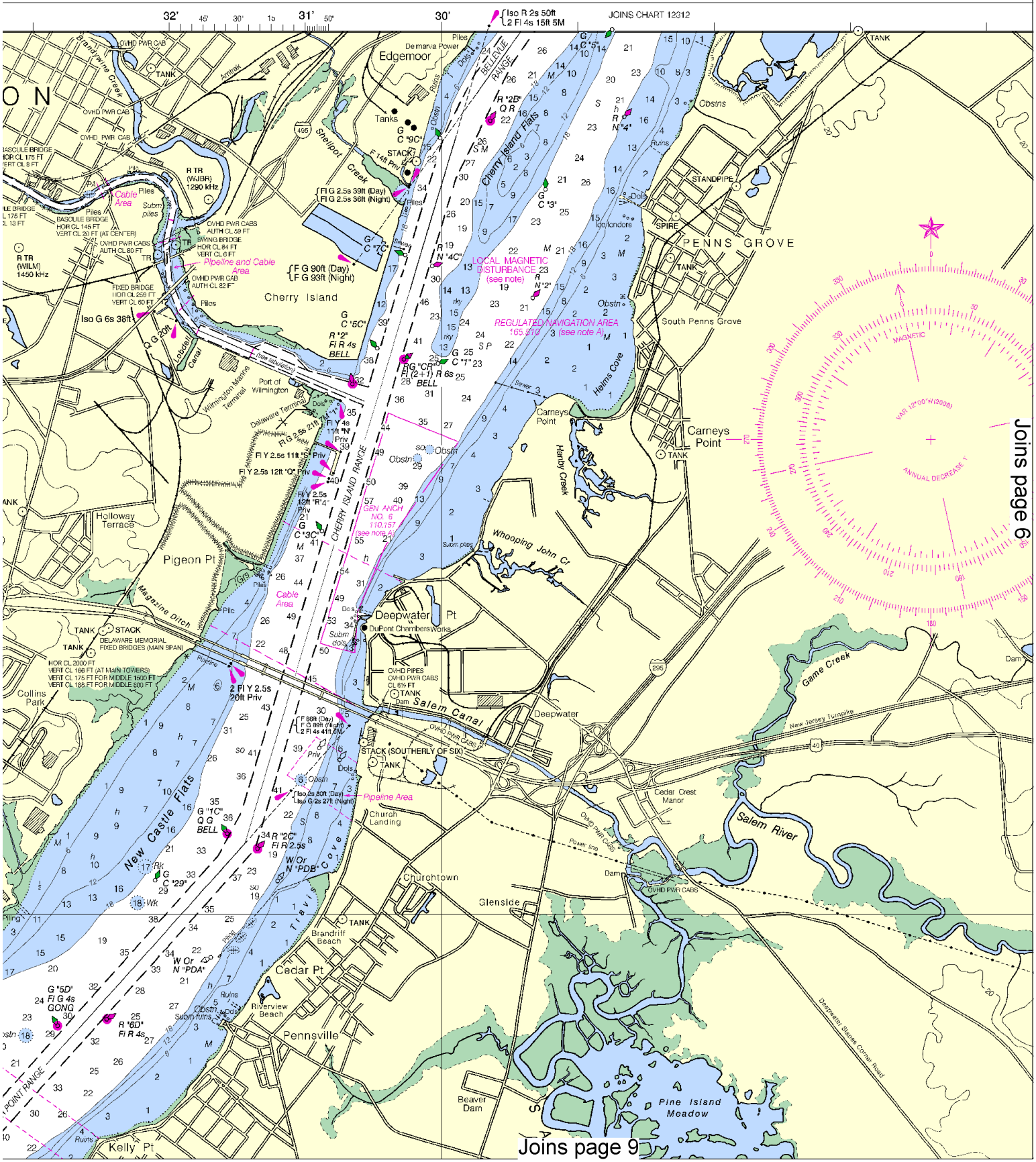


Printed at reduced scale. ~~SCALE 1:40,000~~ See Note on page 5.

Nautical Miles: 1 ½ 0 1 2 3

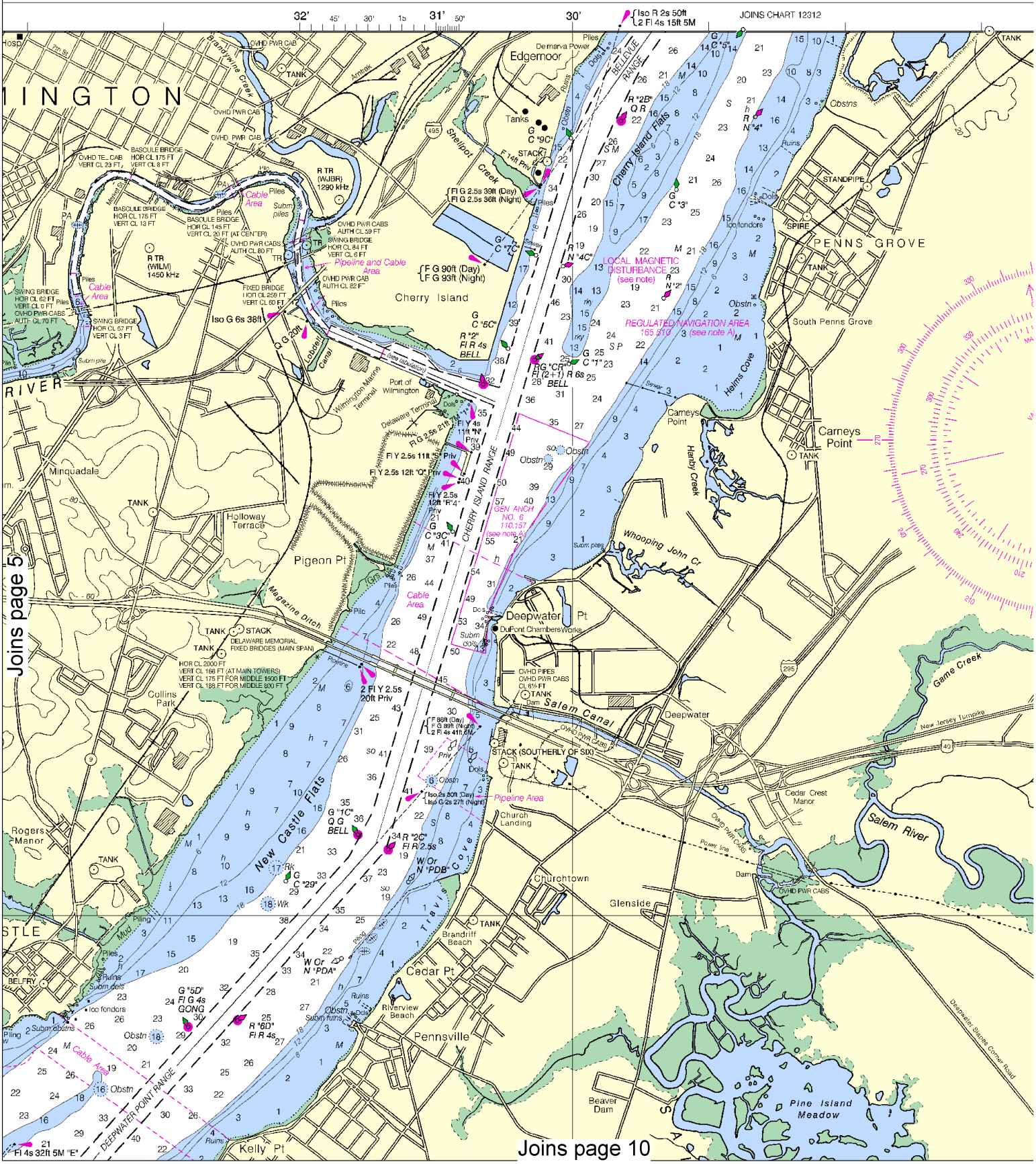
Yards: 1000 0 1000 2000 3000 4000 5000

North



This BookletChart was reduced to 75% of the original chart scale.
The new scale is 1:53333. Barscales have also been reduced and
are accurate when used to measure distances in this BookletChart.

Formerly C&GS 294, 1st Ed., Mar. 1913 G-1953-813 KAPP 668



12311

75° 25'

20'

45'

SCALE 1:40,000

Nautical Miles

1 ½ 0 1 2 3

Yards

1000 0 1000 2000 3000 4000 5000

Beaver Creek

Perkintown

Oldmans Creek

OVHD PWR CAB

Auburn

Laytons Lake

Dam

MAGNETIC

VAR 12° 00'W (2008)

ANNUAL DECREASE 7'

THE NATION'S CHARTMAKER SINCE 1807

UNITED STATES - EAST COAST

NEW JERSEY AND DELAWARE

DELAWARE RIVER

SMYRNA RIVER TO WILMINGTON

Mercator Projection
Scale 1:40,000 at Lat. 39°33'

North American Datum of 1983
(World Geodetic System 1984)

SOUNDINGS IN FEET
AT MEAN LOWER LOW WATER

39° 40'

Additional information can be obtained at nauticalcharts.noaa.gov.

TIDAL INFORMATION

PLACE NAME	(LAT/LONG)	Height referred to datum of soundings (MLLW) Mean Higher High Water	Mean High Water	Mean Low Water
		feet	feet	feet
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(Nov 2008)

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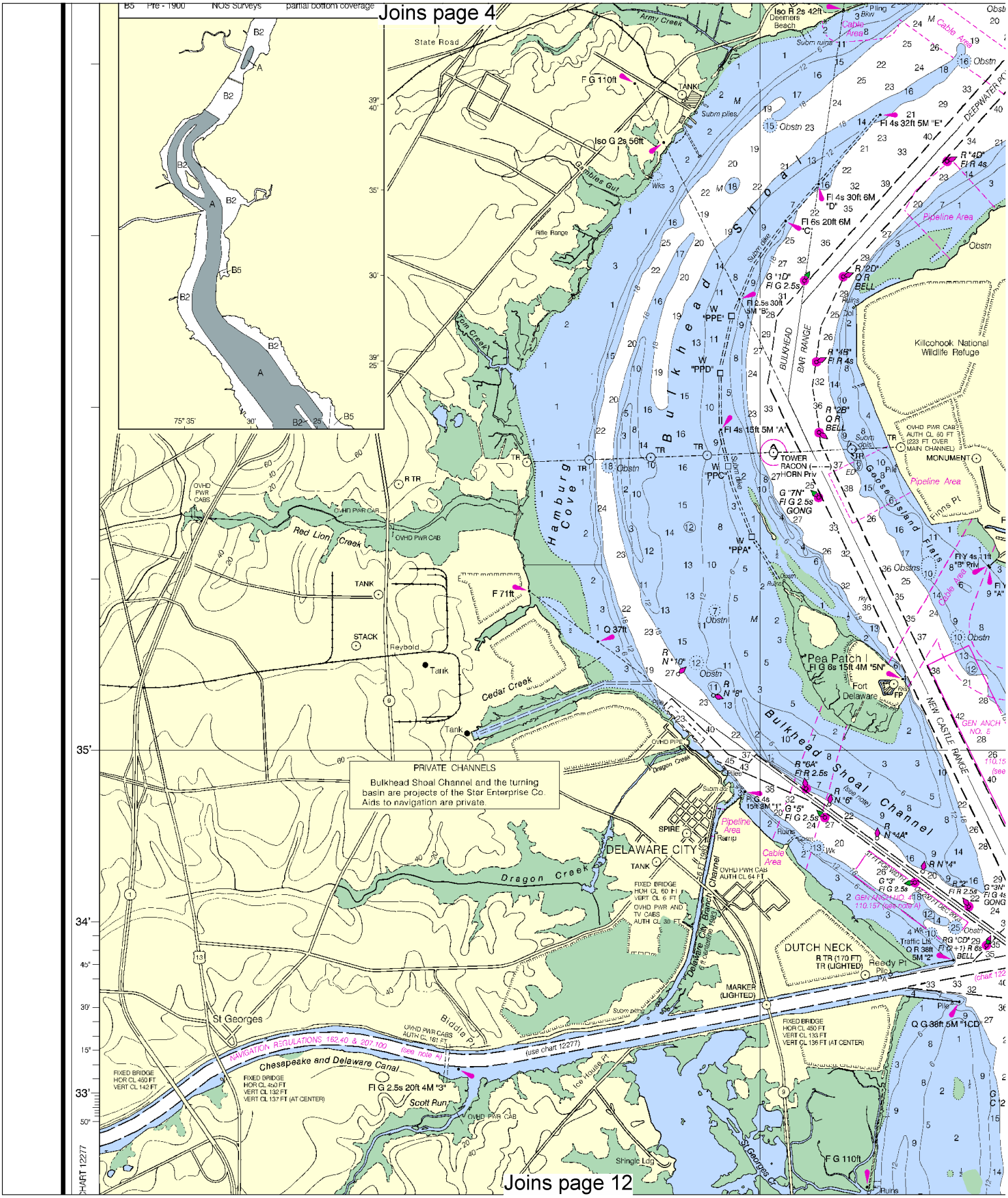
Aids to Navigation (lights are white unless otherwise indicated):

AERO aeronautical
Al alternating
B black
Bn beacon
C can
G green
IQ interrupted quick
Iso isophase
Mo morse code
N nun
OBSC obscured
Oc occulting
Or orange
R TR radio tower
Rot rotating
s seconds
SEC sector
St M statute miles

Joins page 11

This BookletChart has been updated with: Coast Guard Local Notice To Mariners: 0810 2/23/2010,
NGA Weekly Notice to Mariners: 1010 3/6/2010,
Canadian Coast Guard Notice to Mariners: n/a .



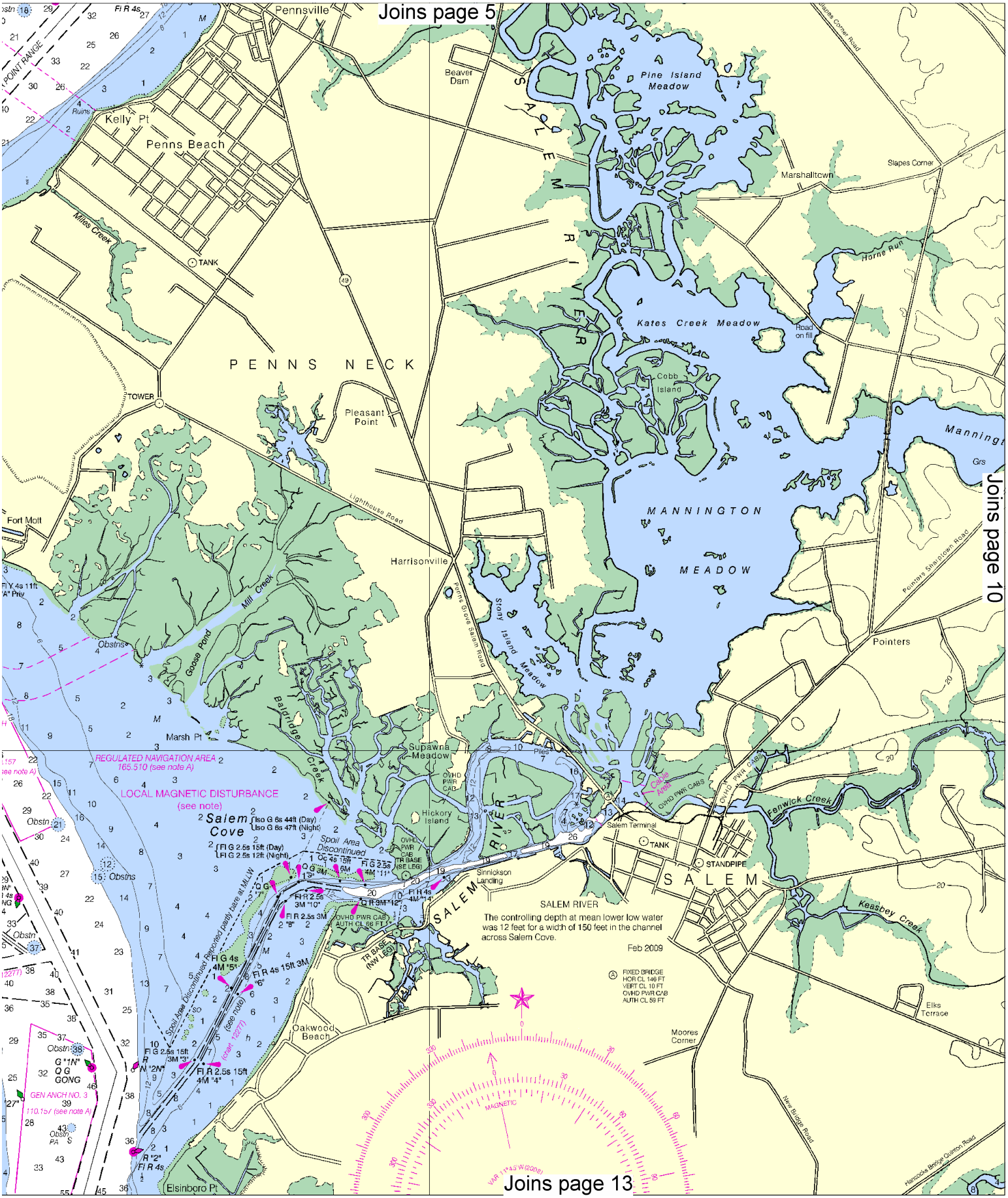
North

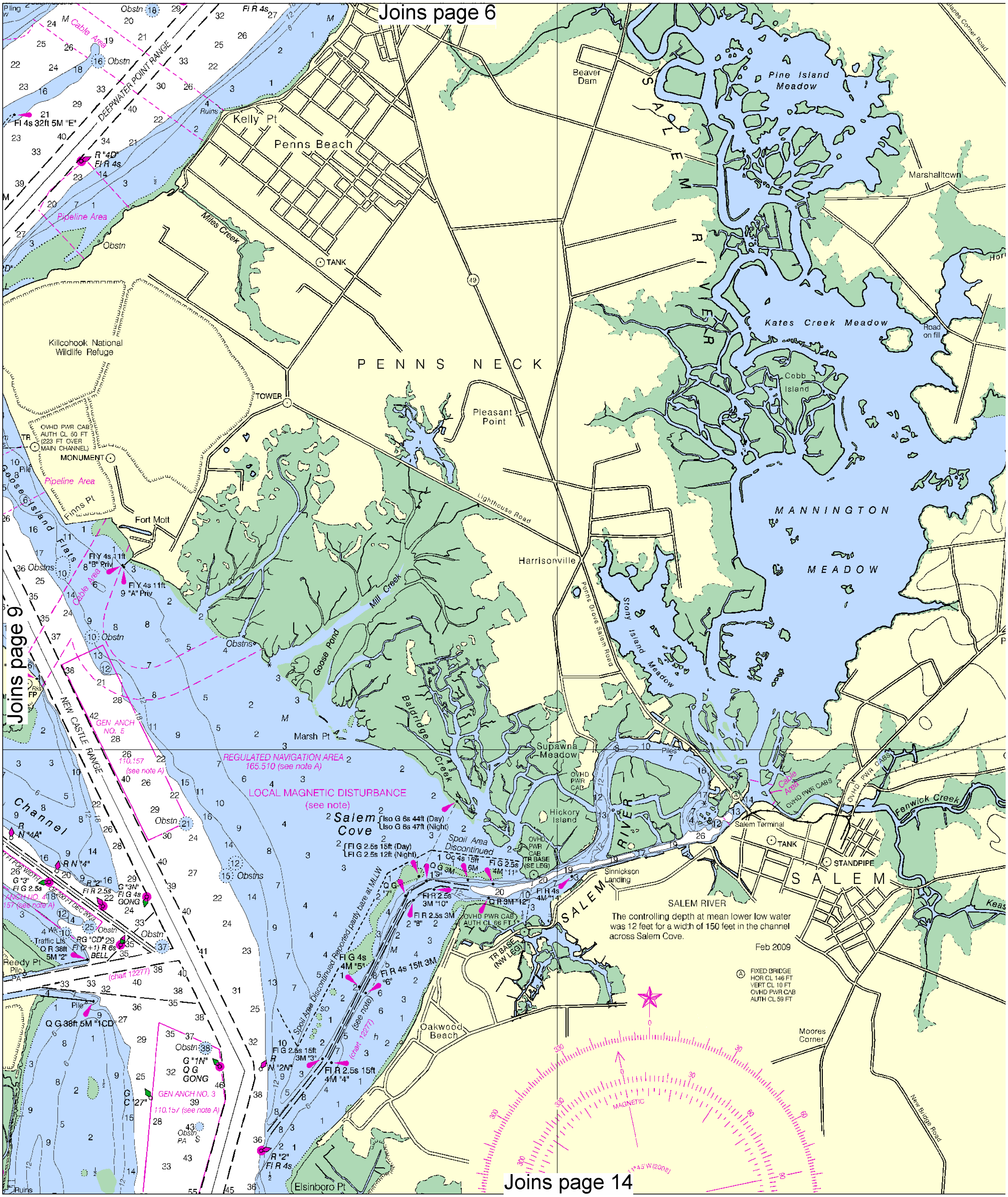
Printed at reduced scale. ~~SCALE 1:40,000~~

Nautical Miles: 1 ½ 0 1 2 3

Yards: 1000 0 1000 2000 3000 4000 5000

See Note on page 5.


Joins page 5
Pennsville
Beaver Dam
Pine Island Meadow
SALEM RIVER
Marshalltown
Slapes Corner
Kelly Pt
Penns Beach
Miles Creek
TANK
Horne Run
Kates Creek Meadow
Road on fill
PENNS NECK
TOWER
Cobb Island
Pleasant Point
Mannington
Grs
Lighthouse Road
Fort Mott
MANNINGTON
MEADOW
Harrisonville
Mill Creek
Harris Grove Salem Road
Stony Island Meadow
Pointers
Goose Pond
Obstns
Baldridge Creek
Marsh Pt
REGULATED NAVIGATION AREA 165.510 (see note A)
LOCAL MAGNETIC DISTURBANCE (see note)
Supawna Meadow
Piles
Cable Area
OVHD PWR CABS
Fenwick Creek
Salem Cove
Iso G 6s 44ft (Day)
Iso G 6s 47ft (Night)
Fl G 2.5s 15ft (Day)
Fl G 2.5s 12ft (Night)
Spoil Area Discontinued
Hickory Island
OVHD PWR CAB
TR BASE (SE LEG)
Salem Terminal
TANK
STANDPIPE
SALEM
Sinnickson Landing
SALEM RIVER
The controlling depth at mean lower low water was 12 feet for a width of 150 feet in the channel across Salem Cove.
Feb 2009
Keasbey Creek
FIXED BRIDGE
HOR CL 146 FT
VERT CL 10 FT
OVHD PWR CAB
AUTH CL 59 FT
TR BASE (NW LEG)
Fl R 4s 15ft 3M
Fl G 4s 4M "5"
Fl R 2.5s 3M "6"
Fl G 2.5s 15ft 3M "3"
Fl R 2.5s 15ft 4M "4"
Spoil Area Discontinued Reported partly base at MLLW
(see note)
Oakwood Beach
Elks Terrace
Moores Corner
New Buildge Road
Hancocks Bridge Quinton Road
GEN ANCH NO. 3
110.157 (see note A)
Elsinboro Pt
Joins page 13
Joins page 10



Printed at reduced scale. SCALE 1:40,000 See Note on page 5.

Nautical Miles: 1 ½ 0 1 2 3

Yards: 1000 0 1000 2000 3000 4000 5000

North

Joins page 7

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(Nov 2008)

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Cy clay	Grs grass	M mud	S sand	sy sticky

Miscellaneous:

AUTH authorized	Obstn obstruction	PD position doubtful	Subm submerged
ED existence doubtful	PA position approximate	Rep reported	

(21) Wreck, rock, obstruction, or shoal swept clear to the depth indicated.
(2) Rocks that cover and uncover, with heights in feet above datum of soundings.

HEIGHTS

Heights in feet above Mean High Water.

AUTHORITIES

Hydrography and topography by the National Ocean Service, Coast Survey, with additional data from the Corps of Engineers, Geological Survey, and U.S. Coast Guard.

CAUTION

Improved channels shown by broken lines are subject to shoaling, particularly at the edges.

CAUTION

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During some winter months or when endangered by ice, certain aids to navigation are replaced by other types or removed. For details see U.S. Coast Guard Light List.

SUPPLEMENTAL INFORMATION

Consult U.S. Coast Pilot 3 for important supplemental information.

AIDS TO NAVIGATION

Consult U.S. Coast Guard Light List for supplemental information concerning aids to navigation.

CAUTION

Mariners are warned to stay clear of the protective riprap surrounding navigational light structures shown thus:

RADAR REFLECTORS

Radar reflectors have been placed on many floating aids to navigation. Individual radar reflector identification on these aids has been omitted from this chart.

CAUTION

Limitations on the use of radio signals as aids to marine navigation can be found in the U.S. Coast Guard Light Lists and National Geospatial-Intelligence Agency Publication 117.

Radio direction-finder bearings to commercial broadcasting stations are subject to error and should be used with caution.

Station positions are shown thus:
⊙(Accurate location) ○(Approximate location)

LOCAL MAGNETIC DISTURBANCE

Differences of as much as 2° to 5° from the normal variation have been observed along the channel from Artificial Island, New Jersey to Marcus Hook, Pennsylvania.

NOTE A

Navigation regulations are published in Chapter 2, U.S. Coast Pilot 3. Additions or revisions to Chapter 2 are published in the Notice to Mariners. Information concerning the regulations may be obtained at the Office of the Commander, 5th Coast Guard District in Portsmouth, Virginia or at the Office of the District Engineer, Corps of Engineers in Philadelphia, Pennsylvania.

Refer to charted regulation section numbers.

CAUTION

SUBMARINE PIPELINES AND CABLES

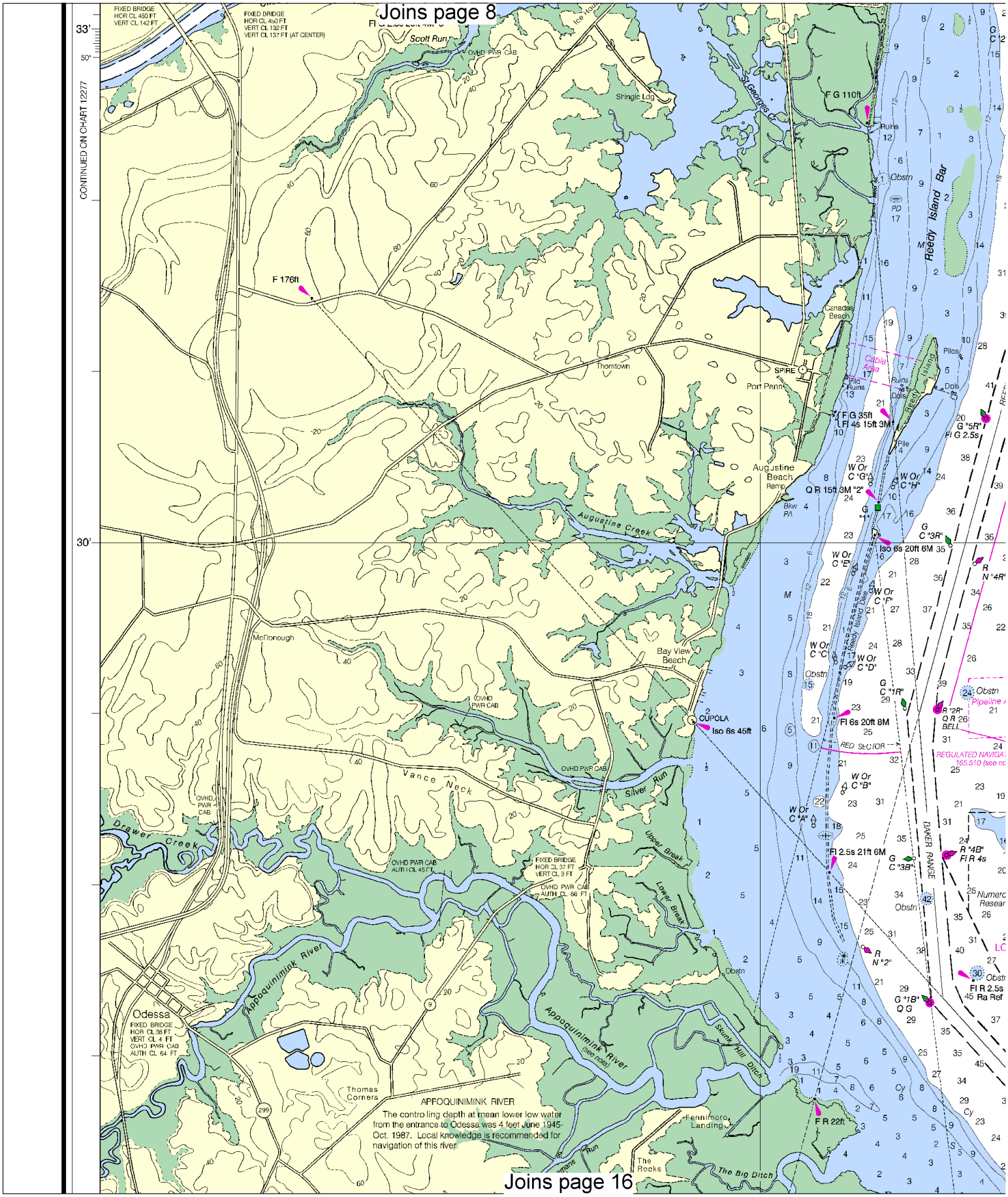
Charted submarine pipelines and submarine cables and submarine pipeline and cable areas are shown as:

Pipeline Area — Cable Area

Slapes Corner
Halltown
Mannington Creek
Grs
Halls Run
Cullers Run
Pointers
Pointers Shiptown Road
Welchville
Penton
Alloway Creek
Elks Terrace
FIXED BRIDGE HOR CL 30 FT VERT CL 3 FT
OVHD PWR CAB AUTH CL 50 FT
Laurel Lake
Quinton
Hancocks Bridge Quinton Road

35'
34'
45'
30"
15'
33'
50'

Joins page 15



12

North

Printed at reduced scale.

~~SCALE 1:40,000~~

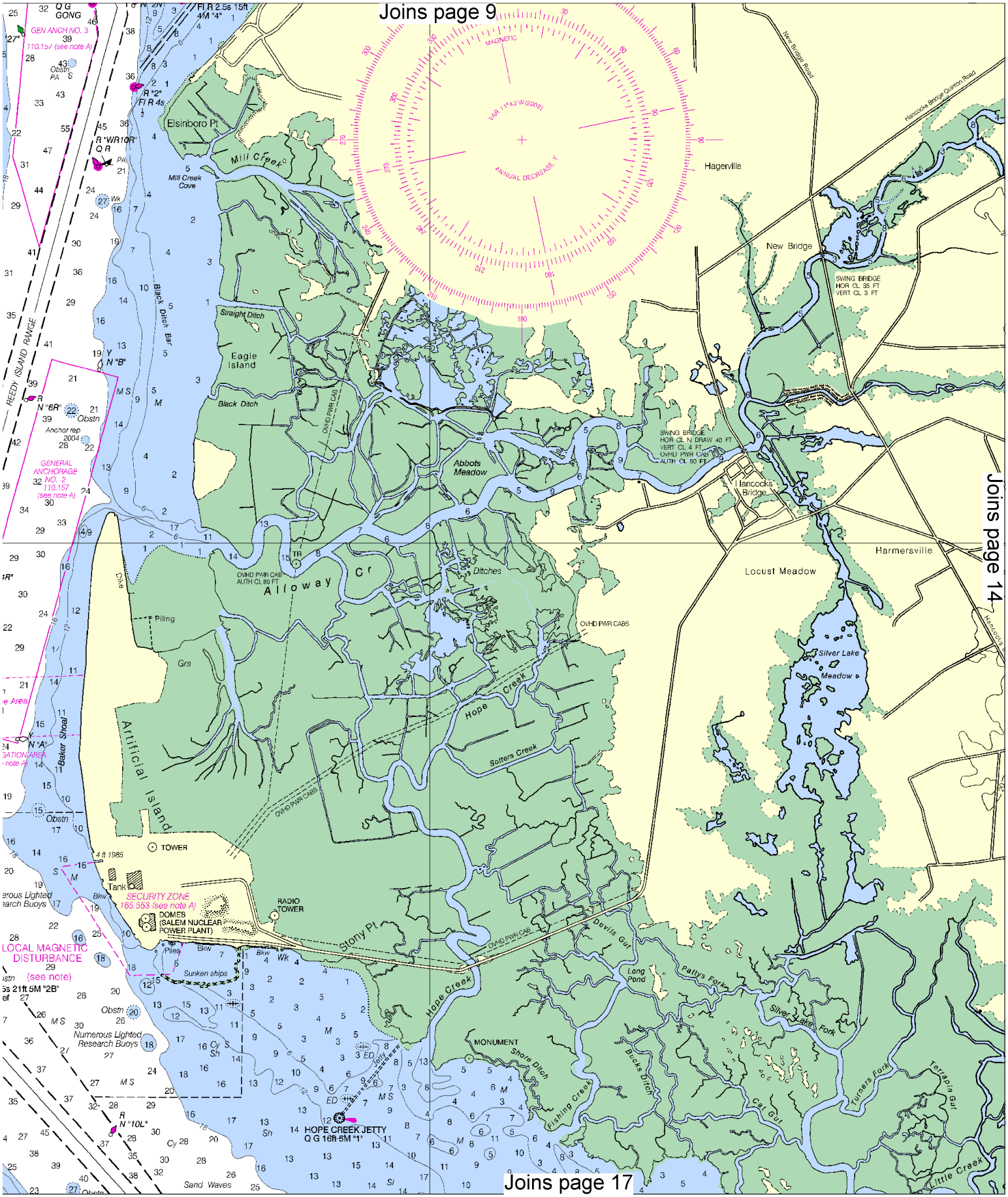
Nautical Miles

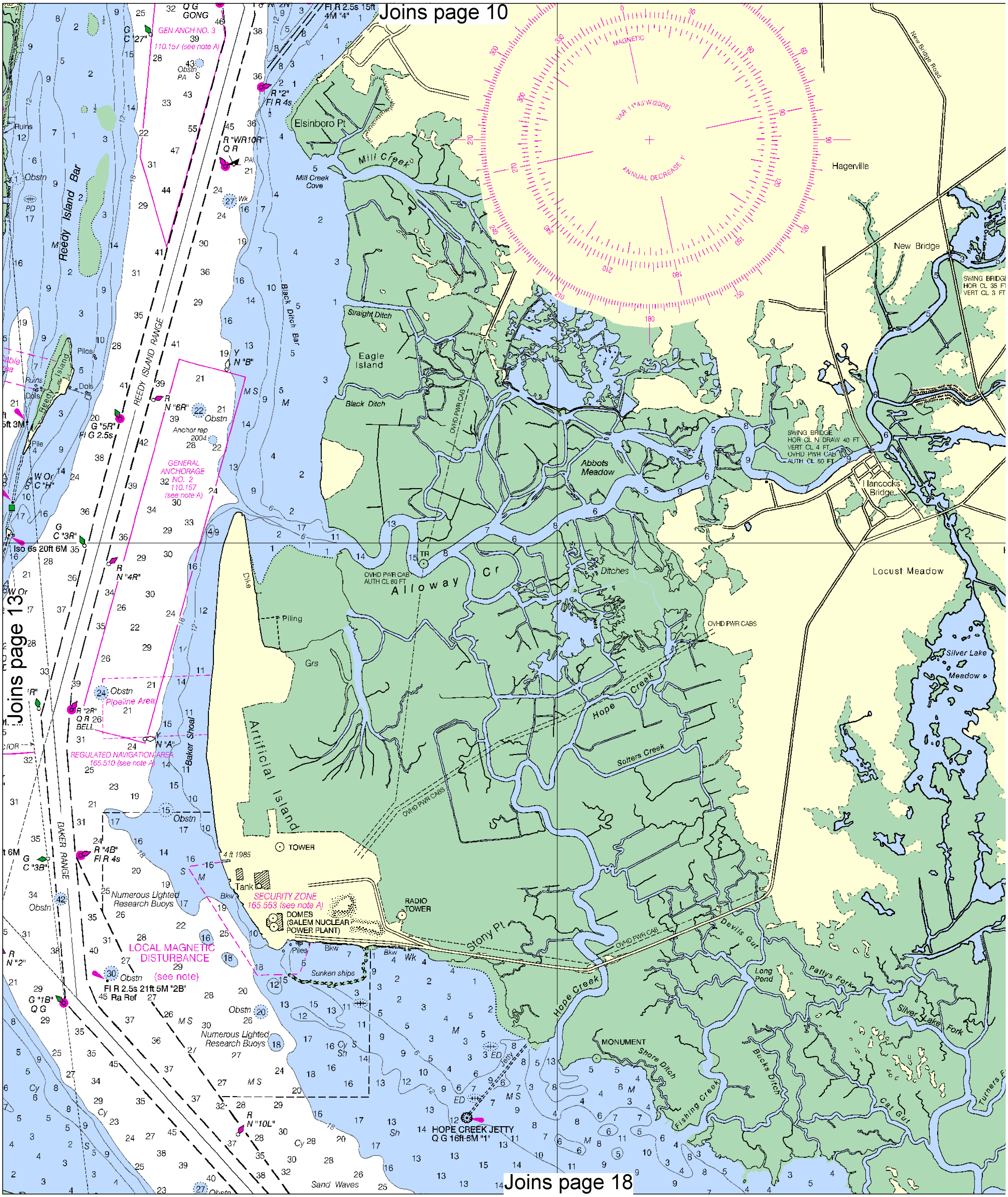
1 ½ 0 1 2 3

Yards

1000 0 1000 2000 3000 4000 5000

See Note on page 5.


Joins page 9
Joins page 14
Joins page 17
Elsinboro Pt
Mill Creek
Mill Creek Cove
Hagerville
New Bridge
New Bridge Road
Hancocks Bridge-Quinton Road
SWING BRIDGE
HOR CL 35 FT
VERT CL 3 FT
Straight Ditch
Eagle Island
Black Ditch
Black Ditch Bar
Abbots Meadow
SWING BRIDGE
HOR CL N DRAW 40 FT
VERT CL 4 FT
OVHD PWR CABS
AUTH CL 50 FT
Hancocks Bridge
Harmersville
Locust Meadow
Alloway Cr
OVHD PWR CAB
AUTH CL 80 FT
Ditches
Piling
OVHD PWR CABS
Silver Lake
Meadow
Hope Creek
Solters Creek
Artificial Island
Baker Shoal
TOWER
Tank
SECURITY ZONE
165.553 (see note A)
DOMES
(SALEM NUCLEAR
POWER PLANT)
RADIO
TOWER
Stony Pt
Devils Gut
Long Pond
Patty's Fork
Silver Lake Fork
LOCAL MAGNETIC
DISTURBANCE
(see note)
Sunken ships
Numerous Lighted
Research Buoys
MONUMENT
Shore Ditch
Bucks Ditch
Fishing Creek
Cat Gut
Turners Fork
Terrapin Gut
Little Creek
HOPE CREEK JETTY
Q G 16ft 5M "1"
Sand Waves
REEDY ISLAND RANGE
GENERAL
ANCHORAGE
NO. 2
110.157
(see note A)
GEN ANCH NO. 3
110.157 (see note A)
Anchor rep
2004
Fl R 2.5s 15ft
4M "4"
R "2"
Fl R 4s
R "WR10R"
Q R
Y
N "B"
R
N "6R"
Obstn
Wk
Bkw
Piles
Sh
Cy
M S
ED
R
N "10L"
Y
N "A"
4 ft 1985
VAR 11°45'W(2006)
ANNUAL DECREASE 7'
MAGNETIC


Joins page 10
Joins page 13
Joins page 18
GEN ANCH NO. 3
110.157 (see note A)
Elsinboro Pt
Mill Creek
Mill Creek Cove
Reedy Island Bar
Reedy Island
REEDY ISLAND RANGE
Black Ditch Bar
Straight Ditch
Eagle Island
Black Ditch
GENERAL ANCHORAGE NO. 2 110.157 (see note A)
Anchor rep 2004
Abbots Meadow
Alloway Cr
OVHD PWR CAB AUTH CL 80 FT
Hagerville
New Bridge
New Bridge Road
SWING BRIDGE HOR CL 35 FT VERT CL 3 FT
SWING BRIDGE HOR CL N DRAW 40 FT VERT CL 4 FT OVHD PWR CAB AUTH CL 50 FT
Hancocks Bridge
Locust Meadow
Silver Lake Meadow
OVHD PWR CABS
Hope Creek
Solters Creek
Ditches
Artificial Island
Baker Shoal
Pipeline Area
REGULATED NAVIGATION AREA 165.510 (see note A)
BAKER RANGE
TOWER
RADIO TOWER
Tank
SECURITY ZONE 165.553 (see note A)
DOMES (SALEM NUCLEAR POWER PLANT)
Stony Pt
Numerous Lighted Research Buoys
LOCAL MAGNETIC DISTURBANCE (see note)
Sunken ships
Devils Gut
Long Pond
Pattys Fork
Silver Lake Fork
MONUMENT
Shore Ditch
Bucks Ditch
Fishing Creek
Cat Gut
HOPE CREEK JETTY Q G 16ft 5M "1"
Fl R 2.5s 21ft 5M "2B" Ra Ref
Sand Waves
VAR 11°45'W(2006)
ANNUAL DECREASE 1'
MAGNETIC

North

Printed at reduced scale.

~~SCALE 1:40,000~~

See Note on page 5.

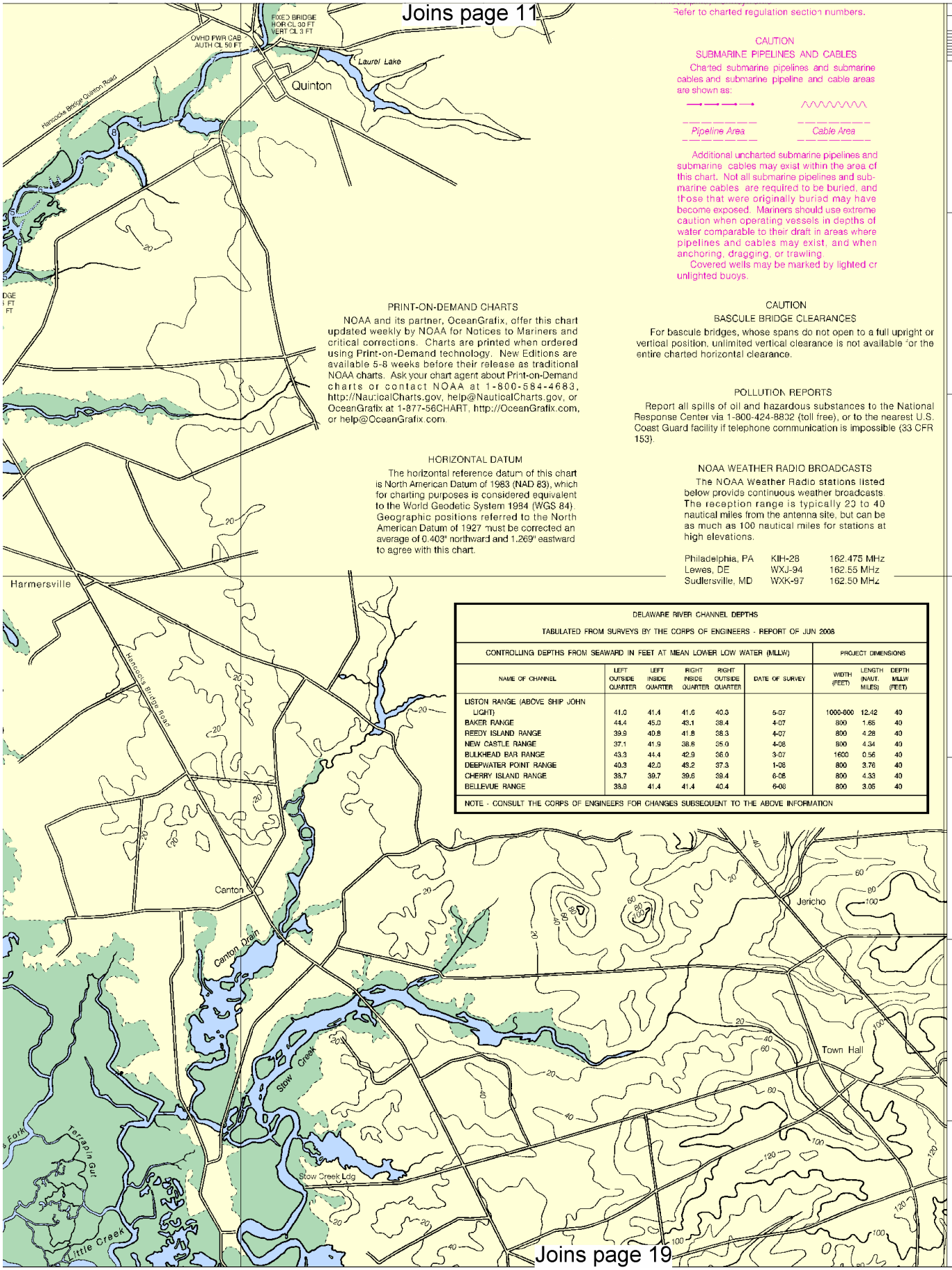
Nautical Miles

1 ½ 0 1 2 3

Yards

1000 0 1000 2000 3000 4000 5000

Joins page 11



Refer to charted regulation section numbers.

CAUTION

SUBMARINE PIPELINES AND CABLES

Charted submarine pipelines and submarine cables and submarine pipeline and cable areas are shown as:

Pipeline Area *Cable Area*

Additional uncharted submarine pipelines and submarine cables may exist within the area of this chart. Not all submarine pipelines and submarine cables are required to be buried, and those that were originally buried may have become exposed. Mariners should use extreme caution when operating vessels in depths of water comparable to their draft in areas where pipelines and cables may exist, and when anchoring, dragging, or trawling.

Covered wells may be marked by lighted or unlighted buoys.

PRINT-ON-DEMAND CHARTS

NOAA and its partner, OceanGrafix, offer this chart updated weekly by NOAA for Notices to Mariners and critical corrections. Charts are printed when ordered using Print-on-Demand technology. New Editions are available 5-8 weeks before their release as traditional NOAA charts. Ask your chart agent about Print-on-Demand charts or contact NOAA at 1-800-584-4683, http://NauticalCharts.gov, help@NauticalCharts.gov, or OceanGrafix at 1-877-56CHART, http://OceanGrafix.com, or help@OceanGrafix.com.

HORIZONTAL DATUM

The horizontal reference datum of this chart is North American Datum of 1983 (NAD 83), which for charting purposes is considered equivalent to the World Geodetic System 1984 (WGS 84). Geographic positions referred to the North American Datum of 1927 must be corrected an average of 0.403" northward and 1.269" eastward to agree with this chart.

CAUTION

BASCULE BRIDGE CLEARANCES

For bascule bridges, whose spans do not open to a full upright or vertical position, unlimited vertical clearance is not available for the entire charted horizontal clearance.

POLLUTION REPORTS

Report all spills of oil and hazardous substances to the National Response Center via 1-800-424-8802 (toll free), or to the nearest U.S. Coast Guard facility if telephone communication is impossible (33 CFR 153).

NOAA WEATHER RADIO BROADCASTS

The NOAA Weather Radio stations listed below provide continuous weather broadcasts. The reception range is typically 20 to 40 nautical miles from the antenna site, but can be as much as 100 nautical miles for stations at high elevations.

Philadelphia, PA	KIH-28	162.475 MHz
Lewes, DE	WXJ-94	162.55 MHz
Sudlersville, MD	WXK-97	162.50 MHz

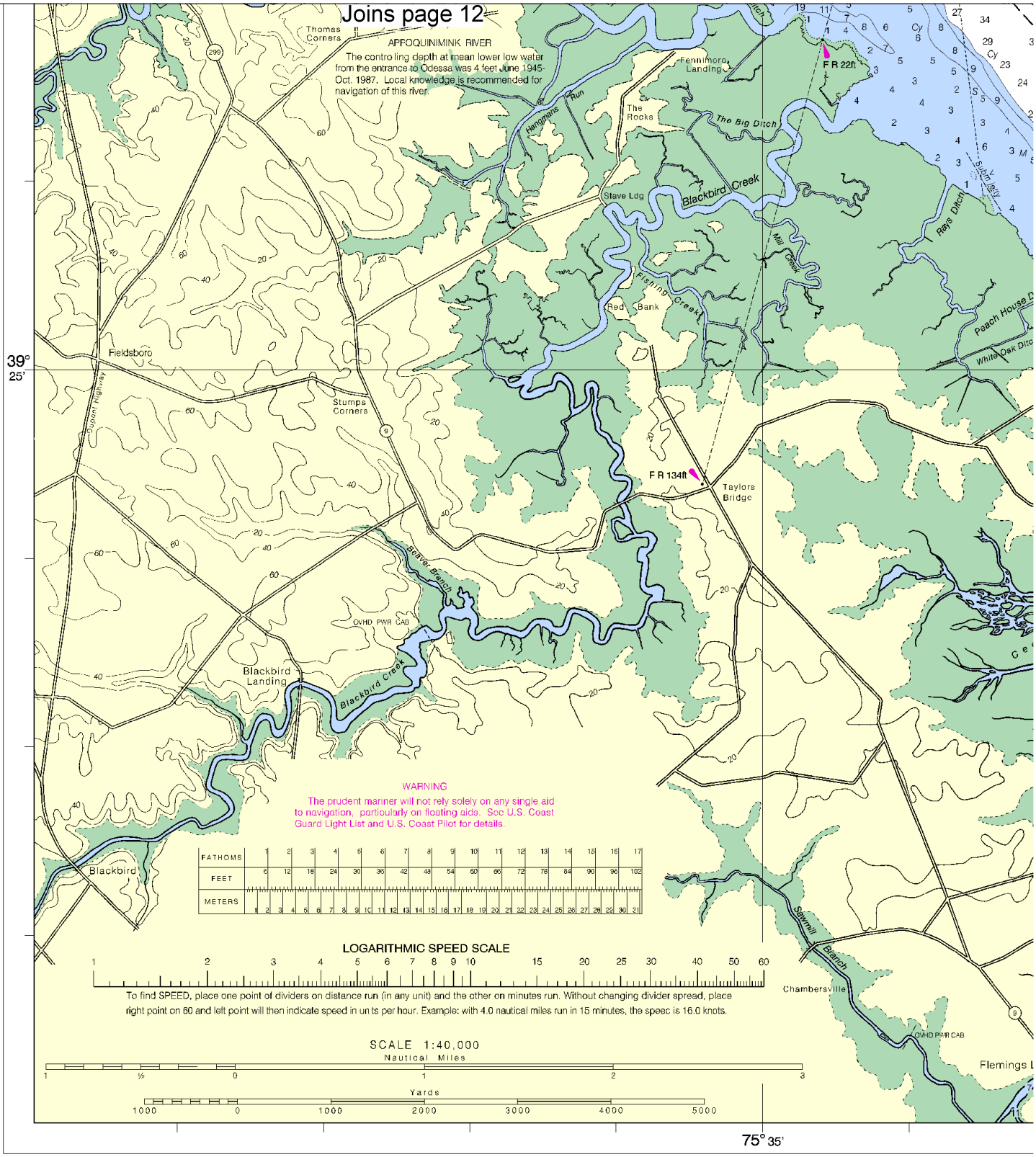
DELAWARE RIVER CHANNEL DEPTHS

TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - REPORT OF JUN 2008

NAME OF CHANNEL	CONTROLLING DEPTHS FROM SEAWARD IN FEET AT MEAN LOWER LOW WATER (MLLW)				DATE OF SURVEY	PROJECT DIMENSIONS		
	LEFT OUTSIDE QUARTER	LEFT INSIDE QUARTER	RIGHT INSIDE QUARTER	RIGHT OUTSIDE QUARTER		WIDTH (FEET)	LENGTH (NAUT. MILES)	DEPTH MLLW (FEET)
LISTON RANGE (ABOVE SHIP JOHN LIGHT)	41.0	41.4	41.6	40.3	5-07	1000-600	12.42	40
BAKER RANGE	44.4	45.0	43.1	38.4	4-07	800	1.65	40
REEDY ISLAND RANGE	39.9	40.8	41.8	38.3	4-07	800	4.28	40
NEW CASTLE RANGE	37.1	41.9	38.8	35.0	4-08	800	4.34	40
BULKHEAD BAR RANGE	43.3	44.4	42.9	36.0	3-07	1600	0.56	40
DEEPWATER POINT RANGE	40.3	42.0	45.2	37.3	1-08	800	3.76	40
CHERRY ISLAND RANGE	38.7	39.7	39.6	39.4	6-08	800	4.33	40
BELLEVUE RANGE	38.9	41.4	41.4	40.4	6-08	800	3.05	40

NOTE - CONSULT THE CORPS OF ENGINEERS FOR CHANGES SUBSEQUENT TO THE ABOVE INFORMATION

Joins page 19



45th Ed., Dec. / 08 ■ Corrected through NM Dec. 27/08
Corrected through LNM Dec. 23/08
12311

CAUTION

This chart has been corrected from the Notice to Mariners (NM) published weekly by the National Geospatial-Intelligence Agency and the Local Notice to Mariners (LNM) issued periodically by each U.S. Coast Guard district to the dates shown in the lower left hand corner. Chart updates corrected from Notice to Mariners published after the dates shown in the lower left hand corner are available at nauticalcharts.noaa.gov.

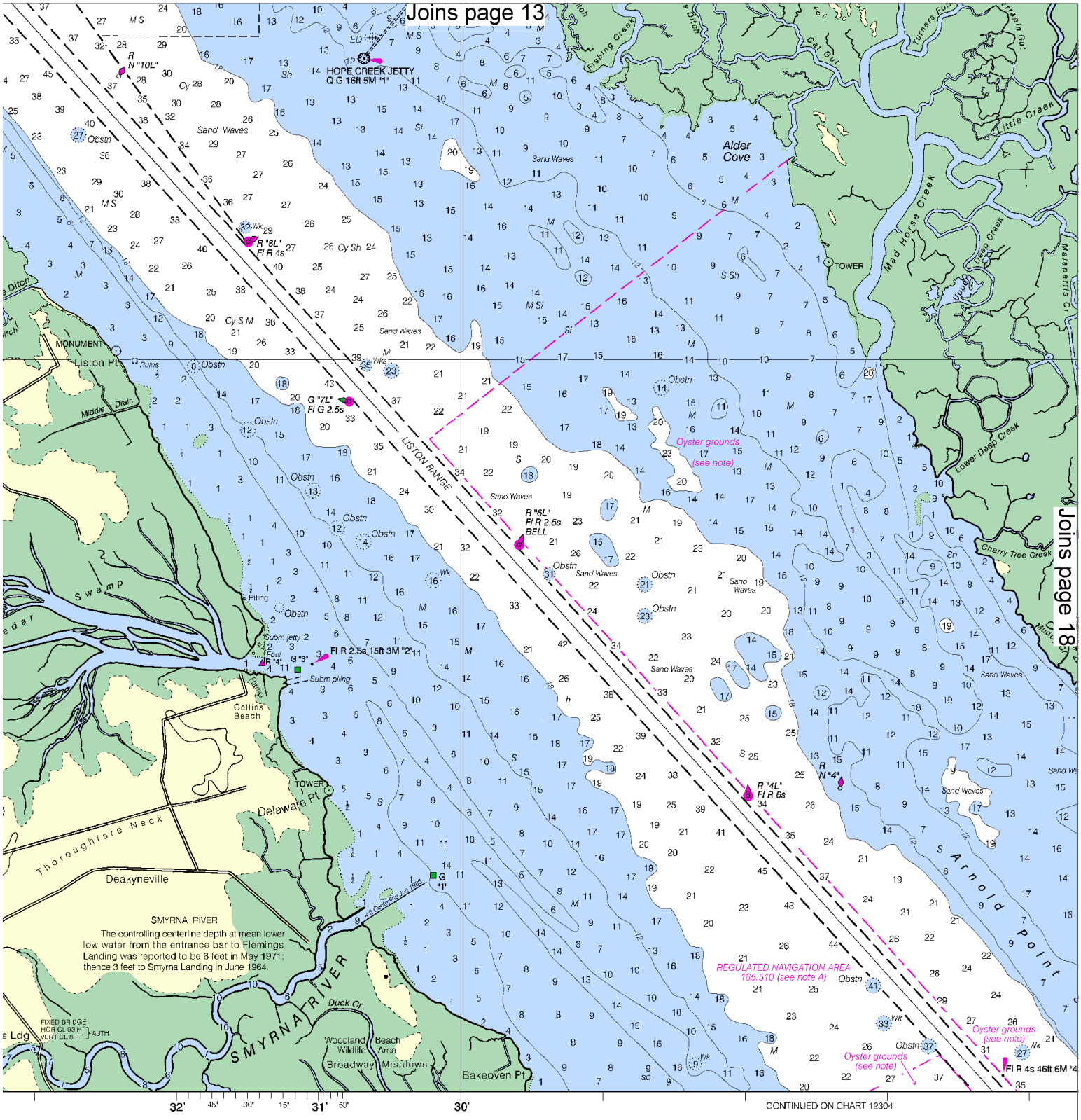
This nautical chart has been designed to promote safe na
Ocean Service encourages users to submit corrections, addit
improving this chart to the Chief, Marine Chart Division (N/
Service, NOAA, Silver Spring, Maryland 20910-3282.

North

Printed at reduced scale. ~~SCALE 1:40,000~~ See Note on page 5.

Nautical Miles: 1 ½ 0 1 2 3

Yards: 1000 0 1000 2000 3000 4000 5000



navigation. The National
ditions, or comments for
N/CS2), National Ocean

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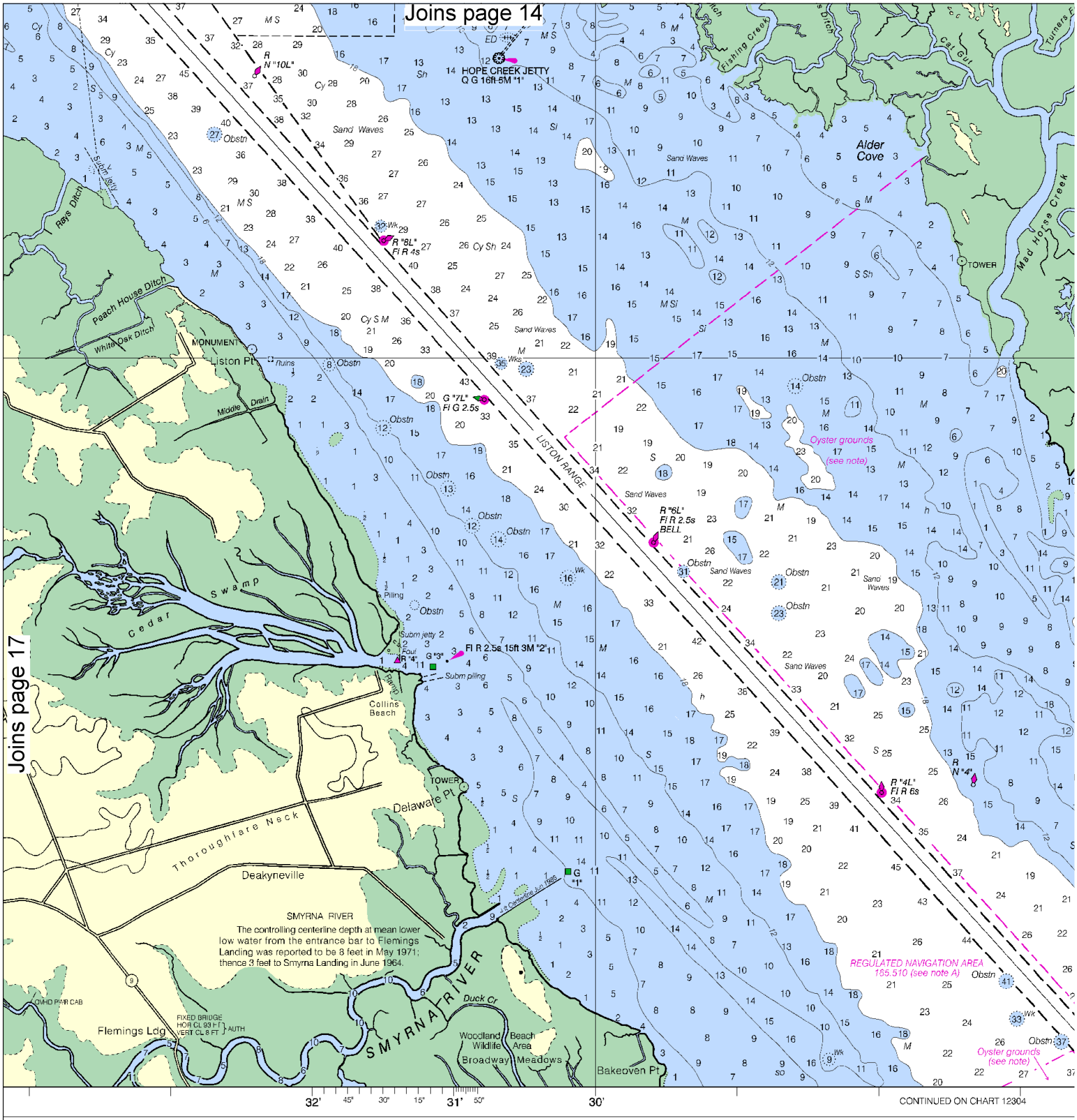
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SERVICE
COAST SURVEY

SOUNDINGS I



been designed to promote safe navigation. The National users to submit corrections, additions, or comments for Chief, Marine Chart Division (N/CS2), National Ocean ing, Maryland 20910-3282.

Published at Washington, D.C.
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SERVICE
COAST SURVEY

SOUI

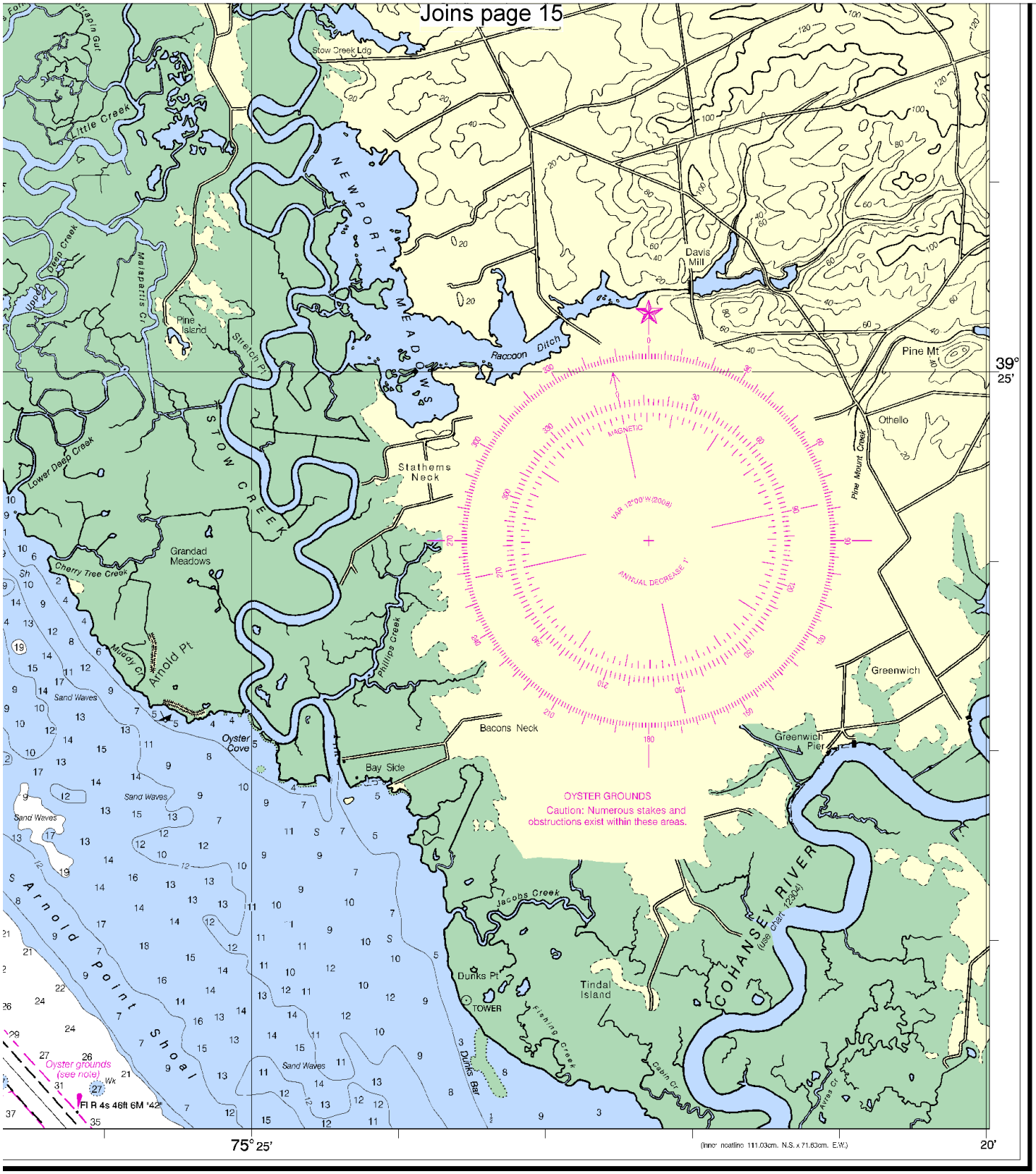
North

Printed at reduced scale. ~~SCALE 1:40,000~~ See Note on page 5.

Nautical Miles: 1 ½ 0 1 2 3

Yards: 1000 0 1000 2000 3000 4000 5000

Joins page 15



INDINGS IN FEET

Delaware River, Smyrna River to Wilmington

SOUNDINGS IN FEET - SCALE 1:40,000

12311

ED NO 45
NSN 7642014010331
NGA REFERENCE NO. 12AHA12311

EMERGENCY INFORMATION

VHF Marine Radio channels for use on the waterways:

Channel 6 – Inter-ship safety communications.
Channel 9 – Communications between boats and ship-to-coast.
Channel 13 – Navigation purposes at bridges, locks, and harbors.
Channel 16 – Emergency, distress and safety calls to Coast Guard and others, and to initiate calls to other vessels. Contact the other vessel, agree to another channel, and then switch.
Channel 22A – Calls between the Coast Guard and the public. Severe weather warnings, hazards to navigation and safety warnings are broadcast here.
Channels 68, 69, 71, 72 & 78A – Recreational boat channels.

Distress Call Procedures

1. Make sure radio is on.
2. Select Channel 16.
3. Press/Hold the transmit button.
4. Clearly say: "MAYDAY, MAYDAY, MAYDAY."
5. Also give: Vessel Name and/or Description; Position and/or Location; Nature of Emergency; Number of People on Board.
6. Release transmit button.
7. Wait for 10 seconds – If no response Repeat MAYDAY Call.

HAVE ALL PERSONS PUT ON LIFE JACKETS !!

Mobile Phones – Call 911 for water rescue.
Coast Guard Philadelphia – 215-271-4944
Coast Guard Search & Rescue – 800-418-7314/410-576-2525
New Jersey Marine Services, Bivalve– 856-785-1330
New Jersey Marine Services, Burlington – 609-387-1221
Delaware Marine Police – 302-736-4580
Philadelphia Marine Police – 215-271-4971

NOAA Weather Radio – 162.400 MHz, 162.425 MHz, 162.450 MHz, 162.475 MHz, 162.500 MHz, 162.525 MHz, 162.550 MHz.

Getting and Giving Help – Signal other boaters using visual distress signals (flares, orange flag, lights, arm signals); whistles; horns; and on your VHF radio. You are required by law to help boaters in trouble. Respond to distress signals, but do not endanger yourself.

NOAA, The Nation's Chartmaker

NOAA CHARTING PUBLICATIONS

Official NOAA Nautical Charts – NOAA surveys and charts the national and territorial waters of the U.S, including the Great Lakes. We produce over 1,000 traditional nautical charts covering 3.4 million square nautical miles. Carriage of official NOAA charts is mandatory on the commercial ships that carry our commerce. They are used on every Navy and Coast Guard ship, fishing and passenger vessels, and are widely carried by recreational boaters. NOAA charts are available from official chart agents listed at: www.NauticalCharts.NOAA.gov.

Official Print-on-Demand Nautical Charts – These full-scale NOAA charts are updated weekly by NOAA for all Notice to Mariner corrections. They have additional information added in the margin to supplement the chart. Print-on-Demand charts meet all federal chart carriage regulations for charts and updating. Produced under a public/private partnership between NOAA and OceanGrafix, LLC, suppliers of these premium charts are listed at www.OceanGrafix.com.

Official Electronic Navigational Charts (NOAA ENCs®) – ENCs are digital files of each chart's features and their attributes for use in computer-based navigation systems. ENCs comply with standards of the International Hydrographic Organization. ENCs and their updates are available for free from NOAA at www.NauticalCharts.NOAA.gov.

Official Raster Navigational Charts (NOAA RNCs™) – RNCs are geo-referenced digital pictures of NOAA's charts that are suitable for use in computer-based navigation systems. RNCs comply with standards of the International Hydrographic Organization. RNCs and their updates are available for free from NOAA at www.NauticalCharts.NOAA.gov.

Official BookletCharts™ – BookletCharts™ are reduced scale NOAA charts organized in page-sized pieces. The "Home Edition" can be downloaded from NOAA for free and printed. The Internet address is www.NauticalCharts.gov/bookletcharts.

Official PocketCharts™ – PocketCharts™ are for beginning recreational boaters to use for planning and locating, but not for real navigation. Measuring a convenient 13" by 19", they have a 1/3 scale chart on one side, and safety, boating, and educational information on the reverse. They can be purchased at retail outlets and on the Internet.

Official U.S. Coast Pilot® – The Coast Pilots are 9 text volumes containing information important to navigators such as channel descriptions, port facilities, anchorages, bridge and cable clearances, currents, prominent features, weather, dangers, and Federal Regulations. They supplement the charts and are available from NOAA chart agents or may be downloaded for free at www.NauticalCharts.NOAA.gov.

Official On-Line Chart Viewer – All NOAA nautical charts are viewable here on-line using any Internet browser. Each chart is up-to-date with the most recent Notices to Mariners. Use these on-line charts as a ready reference or planning tool. The Internet address is www.NauticalCharts.gov/viewer.

Official Nautical Chart Catalogs – Large format, regional catalogs are available for free from official chart agents. Page size, state catalogs are posted on the Internet and can be printed at home for free. Go to http://NauticalCharts.NOAA.gov/mcd/ccatalogs.htm.

Internet Sites: www.NauticalCharts.NOAA.gov, www.NOAA.gov, www.TidesandCurrents.NOAA.gov, www.NOS.NOAA.gov.